

Application No. 10/084,962

Response to Office Action

Dated March 29, 2006

September 29, 2006

REMARKS/ARGUMENTS

Claims 17-34 in this application are before the Examiner. These claims were copied from U.S. Patent No. 6,193,860 ('the '860 patent'). Applicants note in that respect that, in the previous response, applicants incorrectly identified the claims as having been copied from a different patent. Applicants apologize for that inadvertent error.

In the outstanding Office Action, the Examiner indicated that the declaration under 37 C.F.R. § 1.132, filed January, 2006, has been deemed sufficient to overcome the objection based on Wang. The Examiner has, however, maintained the rejection based upon the Lowery '034 patent which was discussed in the previous amendment filed in January of 2006. Once again, applicants take issue with the Examiner's objection based on Lowery.

Lowery, as has been previously discussed, teaches the concept of commonly connected anodes configured such that the voltage from one is essentially the same as that on the other. The claims in this application, however, call for the use of a primary anode and at least one secondary anode to provide a variable current to the semiconductor wafer. That is reflected in the claims by the limitation calling for a variable current to the wafer. That is not, as the Examiner suggests, a process limitation but rather limits the structure of the secondary anode to an anode which is electrically independent of the primary anode to provide varying levels of voltage to the primary and secondary anodes.

For that reason, the Examiner should find persuasive applicants' argument as to claim 17. In other words, the claim as written does require the

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primary and secondary anodes to be separately connected and controlled, the Examiner's view notwithstanding. Therefore, the claims do indeed distinguish over the Lowery patent for the reasons previously advanced. The Examiner's statement to the effect that the anodes disclosed by Lowery are "inherently capable of providing the claimed variable current" to the semiconductor wafer is unsupported in the teachings of the reference. Therefore, claims 17 and 21-22 do indeed distinguish over the Lowery patent and reconsideration of the rejection based thereon is respectfully requested.

The Examiner also rejected the claims based on the newly cited reference to Van Raalte. Reconsideration of the rejection of claims 17, 21-22 and 23-32 on the ground of anticipation is likewise respectfully requested.

The claims in this application call for plating a semiconductor wafer, an application for electroplating which has achieved a distinct status in the art. While the Van Raalte reference is somewhat vague as to the chemical makeup of the substrate, the specification suggests that it is a metal, and is hence unlike the semiconductor wafers to which the claims of this application are directed. Because the problems faced in the plating of semiconductor wafers are unique as compared to the plating of metals, the teachings of the Van Raalte reference are quite distinct. Reconsideration of the rejection based on Van Raalte is therefore respectfully requested.

In addition, the Examiner has also cited two new references, namely Inagaki and Hirohiko, both of which purport to be published Japanese applications. In making the rejection based on those references, the Examiner recognizes that

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neither expressly teaches providing various levels of voltages to different anodes as the claims in this application require. The Examiner argues that the claimed limitation is inherent in the prior art and therefore the claimed limitation is satisfied. Alternatively, the Examiner argues that such a limitation does not distinguish the apparatus claimed.

The Examiner is respectfully requested to reconsider her position on both of those references. Wholly apart from the fact that neither appears to be directed to semiconductors, there is no teaching, either express or implied, that the devices of either provide variable currents to the primary and secondary anodes, the very heart of the invention claimed. It is not sufficient for the Examiner to say, as she does here, that those characteristics are inherent in the prior art without more. Absent some clear teaching of variable current in either of the prior art references, the Examiner's rejection of the claims based thereon must fail.

Reconsideration of the rejection based on those two references is therefore respectfully requested.

The Examiner has also interposed a further rejection of claims 30-34 based on Hirohiko in view of the Van Raalte prior art. Both of those references have been fully discussed above, and applicants submit that they are deficient, viewed in combination, for the same reasons described above that they are deficient separately. There is certainly no reason, and the Examiner does not advance one, as to why one skilled in the art would combine the teachings of those two references since they are indeed quite different from one another. In short the

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Examiner's combination of references falls short of suggesting the invention claimed.

In view of the foregoing, applicants submit that the rejections should be withdrawn and the claims should be deemed allowable. In addition, an interference with U.S. Patent No. 6,193,860 and the present application should be declared.

Respectfully submitted,


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Jayne E. Schwartz